

IN THE CLAIMS

The examiner is requested to amend claims 4, 18, 19, 20, 21, 25 and 216 as per the following claim amendments in which additional recitals are shown in underlining and deleted recitals are crossed out.

CLAIM AMENDMENTS

CLAIMS

1. (original) A method for powder coating a non-conductive plastic substrate comprising the following steps:
 - (a) cleaning said substrates to remove any contaminants or mold release agents therefrom;
 - (b) applying an adhesive/sealer to said substrate;
 - (c) curing said adhesive/sealer by means of heat;
 - (d) applying a thermosetting powder to the hot substrate; and
 - (e) curing said thermosetting powder with heat.
2. (original) A process as claimed in claim 1 further including applying an additional layer of thermosetting powder to the substrate while said substrate is still hot.
3. (original) A process as claimed in claim 2 further including the additional step of curing said additional layer of thermosetting powder with heat.
4. (currently amended) A process as claimed in claim 1 wherein said non-conductive plastic substrate is ~~nylon~~ polyamide.
5. (original) A process as claimed in claim 1 wherein said substrate is moved through the sequence series of steps by the use of a continuous overhead conveyor.

6. (original) A process as claimed in claim 1 wherein said substrate is cleaned in a cleaning booth which spray rinses said substrates and then blow dries said substrates with warm air.
7. (original) A process as claimed in claim 1 wherein said adhesive/sealer is spray coated to said substrate.
8. (original) A process as claimed in claim 1 wherein said adhesive/sealer is cured in a convection oven at a temperature and for a time sufficient for the adhesive/ primer to cure.
9. (original) A process as claimed in claim 1 wherein said substrate is moved from step (c) to step (d) through a controlled tunnel in which the surface and core temperature of said substrate is measured via a temperature probe which controls an infrared heating system which maintains the surface and core temperature of the substrates at a specified temperature.
10. (original) A process as claimed in claim 1 wherein said thermosetting powder is applied to said substrate through a non-electrostatic powder spray at a sufficient volume and for a sufficient time to coat said substrate in accordance with the specified film desired.

11. (original) A process as claimed in claim 1 wherein said thermosetting powder is cured in a curing oven employing an infrared heating system and a convection oven heating system.
12. (currently amended) A process as claimed in claim 11 wherein said infrared heating system brings the surface temperature of the substrate to be cured to the curing temperature ~~immediately~~ quickly.
13. (original) A process as claimed in claim 2 wherein said substrate is moved from the step curing the thermosetting powder to the step of applying an additional layer of thermosetting powder through a temperature and humidity controlled tunnel with IR heating controlled by temperature probes measuring substrate surface temperatures.
14. (original) A process as claimed in claim 1 wherein said additional layer of thermosetting powder is applied to the substrate for a sufficient time and volume to allow for the sufficient coating of the substrate as desired.
15. (currently amended) A process as claimed in claim 14 wherein said subsequent powder coating is cured in a second curing oven using an IR heating system and a convection oven heating system wherein said IR system brings the surface temperature of the part to the curing temperature ~~immediately~~ quickly.

16. (original) A process as claimed in claim 15 wherein said substrate is un-racked subsequent to the second curing oven.
17. (original) A process as claimed in claim 7 wherein said adhesive/sealer is water based.
18. (currently amended) A process as claimed in claim 8 wherein said curing takes place at a temperature of 165 degrees Centigrade (325° Fahrenheit) for a period of not more than 10 minutes.
19. (currently amended) A process as claimed in claim 9 wherein said surface temperature of the substrate is maintained between 130 degrees Centigrade (265° Fahrenheit) and 145 degrees Centigrade (290° Fahrenheit).
20. (currently amended) A process as claimed in claim 11 wherein said curing takes place at a temperature between 165 degrees Centigrade (325° Fahrenheit) and 190 degrees Centigrade (375° Fahrenheit).
21. (currently amended) A process as claimed in claim 12 wherein said curing temperature is between 165 degrees Centigrade (325° Fahrenheit) and 190 degrees Centigrade (375° Fahrenheit).

22. (original) A process as claimed in claim 12 wherein said curing time takes between 3 and 7 minutes.
23. (original) A process as claimed in claim 14 wherein said additional layer is a powder coat which is a clear coat or a top sealer.
24. (original) A process as claimed in claim 1 wherein said curing takes place at a temperature lower than the VICAT melting point of said adhesive/sealer and powder.
25. (currently amended) A process as claimed in claim 24 wherein said curing temperature is between 65 degrees Centigrade (150° Fahrenheit) and 190 degrees Centigrade (375° Fahrenheit).
26. (currently amended) A process as claimed in claim 25 wherein said curing takes place at 95 degrees Centigrade (200° Fahrenheit).

IN THE DRAWINGS

Please replace current figure 2 with the replacement figure 2 enclosed herewith for acceptance by the examiner.